

IN THE CLAIMS:

The following is a complete listing of claims in this application.

Claims 1-10 (canceled).

11. (new) An installation for the high-speed acquisition of acquisition data including an Ethernet network with a plurality of nodes (N), where at least one of the nodes of the Ethernet network constitutes a client/server detection unit with at least one detector delivering acquisition data,

said client/server detection unit comprising:

self-triggering resources for reading the acquisition data so that the detection unit is able to operate independently;

reading and processing resources independent of other nodes of the network;

resources for transmission of the acquisition data via the network to at least one other node (N);

a clock unit allowing correlation between clocks of multiple said detection units, wherein said clock unit comprises:

resources for receiving a clock synchronization signal, generated by one said clock unit and including encoded instructions;

resources for transmission of an acknowledgment signal to the clock unit transmitting the synchronization signal; and

resources for processing the encoded instructions, to increment an event-marking sensor,

a detector performing a conversion of a physical magnitude into electrical signals delivered on several output paths,

a sequencer with resources performing:

sequencing for reading the acquisition data from the detector and the configuration data;
storage of the acquisition and configuration data;
analysis and processing of the acquisition data from the detector; and
an interface to a network processor, and
an Ethernet network processor with resources providing:
an interface to the sequencer;
reception of the data sent by the user unit to perform the configuration of the detector and of the sequencer;
processing of the acquisition data; and
transmission of the acquisition data from the detector to the user unit.

12. (new) An installation according to claim 11, wherein the sequencer includes resources performing:

formatting of the acquisition data from the detector and of the information resulting from the processing effected by the detection unit,

storage in a memory of the processed and formatted acquisition data, and

temporal marking of a trigger for acquisition of the data.

13. (new) An installation according to claim 12, wherein the sequencer is built around an FPGA device.

14. (new) An installation according to claim 11, wherein the Ethernet network processor includes resources performing:

retrieval of the data stored in the memory by the sequencer,

analysis and processing of the said data,

formatting of the processed data, and

shared management of the data processing with other nodes of the network.

15. (new) An installation according to claim 12, wherein the sequencer performs the storage of the data in memory inside or outside the sequencer.

16. (new) An installation according to claim 11, wherein the detector includes:

a sensitive sensor with a series of output paths,

a sub-module for reading the acquisition data, controlled by the sequencer and including a frontal electronic unit, and

a control sub-module managed by the sequencer to configure and control the frontal electronic unit.

17. (new) An installation according to claim 16, wherein the frontal electronic unit of the sub-module for reading includes:

resources for reading the acquisition data, resources for selection of an acquisition mode, and resources for selection of an acquisition trigger source,

resources for amplification and shaping of signals, and

resources for receiving configuration parameters.

18. (new) An installation according to claim 16, wherein the control sub-module includes resources to control the frontal electronic unit and to control the detector.

19. (new) An installation according to claim 11, wherein at least one of the nodes (N) of the Ethernet network constitutes a client/server user unit designed to provide the detection unit with configuration data from the unit, and to receive acquisition data transmitted by the detection unit.